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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,133	07/08/2003	Mary Morabito O'Neill	02W234	8119

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EXAMINER

CHAMBERS, TROY

ART UNIT	PAPER NUMBER
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3641

DATE MAILED: 01/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/615,133

**Applicant(s)**

O'NEILL ET AL.

**Examiner**

Troy Chambers

**Art Unit**

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 3,5,7,9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,6,8 and 11-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of the election of species requirement in the reply filed on 10/14/04 is acknowledged. The traversal is on the ground(s) that claims 1 and 22 are generic. While claims 1 and 22 are now deemed generic, the restriction requirement is still valid in that several embodiments are disclosed and claimed.

The requirement is still deemed proper and is therefore made FINAL.

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Specifically, independent claims 1, 17 and 22 require a hot region having a temperature greater than 150 C and an obscuring agent having a temperature of less than that of the hot region. A temperature "less than that of the hot region" includes an unlimited range. However, any obscurant temperature above 150 C is non-enabling since it would serve as a significant infrared emitter (spec., pg. 3, ll. 8-9).

***Claim Objections***

3. Claim 11 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 1 recites, "carbon dioxide gas, or water vapor, or a mixture thereof". The subject matter of claim 11 does not serve to further limit claim 1.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102/103 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claim 22 is rejected under 35 U.S.C. 102(b) as being anticipated by the well-known process of fighting a fire. A flame has a temperature in excess of 150 degrees C. Water, a CO2 fire extinguisher or both can be ejected by a firefighter (dispensing

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location). The water or CO<sub>2</sub> have temperatures less than that of the fire. An example of this technique is disclosed in the document "Concorde Accident".

6. Claims 1, 2, 4, 11, 14, 15, 17 and 22 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over applicant's admissions on page 4, lines 7-11 of the specification.

7. With respect to claim 1, Applicant admits that water is added to the combustion gas stream of a gas turbine engine of an aircraft before it flows out of the engine as the exhaust gas stream. Gas turbine engines inherently have viewable hot regions in excess of 150 degrees C (typically, combustion is in excess of 2000 degrees C and exhaust gas temperatures (EGTs) in excess of 800 degrees C). Water added to a combustion stream turns into vapor at 100 degrees C. The hot region (the combustion gas stream before water is added) would be hotter than the stream after water is added. An external viewing location could be an enemy jet aircraft located directly rearward of the gas turbine engine and having infrared capabilities. The addition of water between the hot region and the external viewing location would obscure an infrared signal.

8. With respect to claim 2, any aircraft is a transport aircraft.

9. With respect to claim 4, the hot region would be the combustion gas stream before the water is added.

10. With respect to claim 11, gas turbine engines inherently produces carbon dioxide. Water mixed with the hot gasses produced by the turbine engine would turn to vapor (at 100 degrees C).

11. With respect to claims 14 and 15, refer to the rejection with respect to claim 1.

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12. With respect to claim 17, refer to the rejection of claims 1 and 4.

13. With respect to claim 22, refer to the rejection of claim 1.

14. Claims 1, 2, 4, 8, 11, 14, 15, 16, 17, 19 and 22 are rejected under 35

U.S.C. 102(b) as being anticipated by U.S. 4002024 issued to Nye et al. (hereinafter "Nye").

15. With respect to claim 1, Nye discloses a process in which infrared signals are suppressed. The pertinent section of the disclosure is as follows: col. 4, line 37 to col. 5, line 48. To summarize, ambient air is ejected into the hot gas stream from the diffuser to suppress an infrared signal. As stated above, aircraft engines of the type disclosed by the cited prior art emit exhaust gasses in excess of 150 degrees Celsius. It is also known that the composition of ambient air includes carbon dioxide and water vapor. To cool the hot gas airflow, the ambient air would necessarily be at a temperature less than said airflow.

16. With respect to claim 2, any aircraft is capable of transporting.

17. With respect to claim 4, the hot gas from the diffuser flows therefrom in the form of a plume.

18. With respect to claim 8, the ambient air is mixed with the hot exhaust creating a cooler at the engine exit than that located within the engine.

19. With respect to claim 11, ambient air is comprised of carbon dioxide and water vapor.

20. With respect to claim 14, the cooler exhaust gas emitted from the engine masks the hotter exhaust gasses produced therein.

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21. With respect to claim 15, the Examiner takes Official Notice of the fact that gas turbine engines of the type disclosed by Nye serve as main propulsion aircraft engines.

22. With respect to claim 16, ambient air has temperature less than 150 degrees Celsius (Examiner takes Official Notice of this fact).

23. With respect to claim 17, refer to the rejection of claims 1 and 4.

24. With respect to claim 19, the ambient air is mixed with the hot exhaust creating a cooler at the engine exit than that located within the engine.

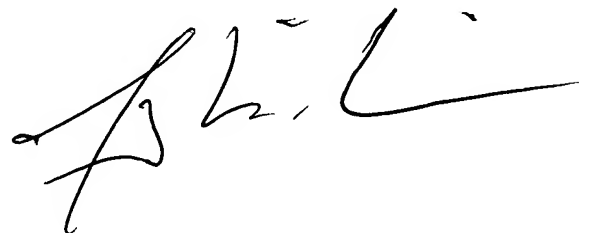
25. With respect to claim 22, refer to claims 1 and/or 17.

### ***Conclusion***

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited on form PTO-892 are cited as of interest to show similar methods of obscuring infrared signals.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Troy Chambers whose telephone number is (703) 308-5870. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J. Carone, can be reached at (703) 306-4198.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-4177. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

A handwritten signature in black ink, appearing to be 'T. Chambers', is located at the bottom right of the page.